

Appl. No. 10/709,198  
 Amdt. dated August 30, 2005  
 Reply to Office action of June 14, 2005

### REMARKS

**Claim 12 is objected to the phrase "can be" renders the claim indefinite**

Claim 12 is amended to state that the voltage gain is expressed as  $C1 \times \exp(C2(V1-V2))$ . No new matter is entered by the amendment to claim 12.

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**Claims 1-5, 7, 8, 12 and 13 are rejected under 35 USC 102a as being anticipated by Applicant Admitted Prior Art (AAPA)**

Applicant asserts that claim 1 is not anticipated by the AAPA because the AAPA does not teach the voltage gain being a simple exponential function. The AAPA illustrates a

10 conventional variable gain amplifier (Fig. 1) having a voltage gain

in which the denominator of the voltage gain comprises not only a simple exponential

function such as  $\exp(\frac{V_y}{V_t})$  but also a constant term "1". Consequently, the voltage gain changes non-linearly in decibel as shown by the solid curve line labeled with

$$Av = \frac{K}{1 + \exp(\frac{V_y}{V_t})}$$

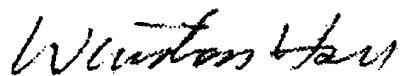
15 in Fig. 1. Therefore, as illustrated in Fig. 1, the voltage gain of the AAPA is not a simple exponential function. For at least this reason, applicant asserts that claim 1 is not anticipated by the AAPA. Reconsideration of claim 1 is respectfully requested. As claims 2-5, 7, 8, 12 and 13 are dependent upon claim 1, if claim 1 is found to be allowable, so too should the dependent claims.

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**New Claims**

New claims 14-27 are added. No new matter is introduced by the newly added claims. Concerning the patentability of new independent claim 14 with respect to the AAPA, applicant points out that the AAPA does not teach "the voltage gain changing linearly in 5 decibel in response to the controlling voltage", as claimed in claim 14. For at least this reason, applicant asserts that claim 14 should be found allowable over the AAPA. As claims 15-27 are dependent upon claim 14, if claim 14 is found to be allowable, so too should the dependent claims 15-27. Consideration of new claims 14-27 is respectfully requested.

10 Sincerely yours,



Date: August 30, 2005

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20 Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)